

## SEQUENCE LISTING

<110> CANON KABUSHIKI KAISHA, et al.

<120> Kit for immobilizing organic substance, organic substance-immobilized structure, and manufacturing methods therefor

<130> 10002556W001

<150> JP2004-016858

<151> 2004-01-26

<160> 181

<170> MS-WORD

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<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> anodisk membrane-binding peptide

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<210> 2

<211> 12

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<213> Artificial Sequence

<220>

<223> anodisk membrane-binding peptide

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<210> 3

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<220>

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<210> 7  
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<210> 8  
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<220>  
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<210> 9  
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<220>  
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<400> 9  
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<210> 10  
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<220>  
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<210> 11  
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<220>  
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<400> 11  
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<210> 12  
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<220>  
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<400> 12  
 Val Thr Leu His Thr Val Asp His Ala Pro Gln Asp  
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<210> 13  
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<220>  
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<400> 13  
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<210> 14  
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<220>  
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<210> 15  
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<220>  
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<220>  
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<400> 26  
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<210> 27  
 <211> 12  
 <212> PRT  
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<400> 27  
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<210> 28  
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 <212> PRT  
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<400> 28  
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<210> 31  
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<400> 31  
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<400> 32  
 Ala Cys Thr Pro Lys Pro Gly Lys His Cys  
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<210> 33  
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 <212> DNA  
 <213> Pseudomonas cichorii  
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 <223> Pseudomonas cichorii YN2 ; FERM BP-7375

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 caggccatca agcaaccggt gcacagcgtc aaacatgtcg cgcactttgg tcttgaactc 180  
 aagaacgtac tgctgggtaa atccgggctg caaccgacca gcatgaccg tcgcttcgcc 240  
 gatccggcct ggagccagaa cccgctctat aaacgttatt tgcaaaccta cctggcgctg 300  
 cgcaaggaac tccacgactg gatcgatgaa agtaacctcg cccccaagga tgtggcgcg 360  
 gggcacttcg tgatcaacct catgaccgaa gccatggcgc cgaccaacac cgcggccaac 420  
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 cactggcagg cctggcaggc ccaacgctcg ggcgagctga aaaagtcccc gacaaaactg 1620  
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<210> 34  
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 <212> DNA  
 <213> *Pseudomonas cichorii*  
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 <223> *Pseudomonas cichorii* YN2 ; FERM BP-7375

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 catggcctgc gccaccccggt gcacaccgcg cgacacgcct tgaactggg tggtaactg 180  
 ggacgcgtgt tgcctggcga caccctgcat cccaccaacc cgcaagaccg tcgcttcgac 240  
 gatccggcgt ggagttcaa tcccttttat cgtcgcagcc tgcaggcgta cctgagctgg 300  
 cagaagcagg tcaagagctg gatcgacgaa agcaacatga gcccgatga ccgcgcccg 360  
 gcgcacttcg cgttcgccct gctcaacgat gccgtgtcgc cgtccaacag cctgctcaat 420  
 ccgctggcga tcaaggaaat cttcaactcc ggccggcaaca gcctggtgcg cgggatcggc 480  
 catctggtcg atgacctctt gcacaacgat ggcttgcccc ggcaagtcac caggcatgca 540  
 ttcgaggttg gcaagaccgt cggcaccacc accggcgccg tgggttttcg caacgagctg 600  
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 cagttcgcgc tcaagaacgg cctgcaaacc ttcgtcatca gctggcgcaa tccggatgta 780  
 cgtcaccgcg aatggggcct gtcgacctac gtcgaagcgg tggagaagc catgaatgtc 840  
 tgccgggcaa tcaccggcgc gcgcgaggtc aacctgatgg gcgcctgcgc tggcgggctg 900  
 accattgctg ccctgcaggc ccacttgcaa gccaaagcgc agctgcgccg cgtctccagc 960



gcgacgtacc tggtagacct gctcgacagc caactggaca gcccgccac actcttcgcc 1020  
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 cgcgacatgg ccaaggtttt cgctggatg cgccccaacg attgatctg gagctacttc 1140  
 gtcaacaatt acctgatggg caaggagccg ccggcgcttcg acattctcta ctggaacaat 1200  
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 acgcaatggc tgggctggat tcaggagcgc tcgggcgcgc aaaaagaaac ccacatggcc 1620  
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 tga 1683

<210> 35  
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 <212> PRT  
 <213> *Pseudomonas cichorii* YN2 ; FERM BP-7375

<400> 35  
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 Ala Ser Ala Arg Met Val Leu Arg Gln Ala Ile Lys Gln Pro Val His  
 35 40 45  
 Ser Val Lys His Val Ala His Phe Gly Leu Glu Leu Lys Asn Val Leu  
 50 55 60  
 Leu Gly Lys Ser Gly Leu Gln Pro Thr Ser Asp Asp Arg Arg Phe Ala  
 65 70 75 80  
 Asp Pro Ala Trp Ser Gln Asn Pro Leu Tyr Lys Arg Tyr Leu Gln Thr  
 85 90 95  
 Tyr Leu Ala Trp Arg Lys Glu Leu His Asp Trp Ile Asp Glu Ser Asn  
 100 105 110  
 Leu Ala Pro Lys Asp Val Ala Arg Gly His Phe Val Ile Asn Leu Met  
 115 120 125  
 Thr Glu Ala Met Ala Pro Thr Asn Thr Ala Ala Asn Pro Ala Ala Val  
 130 135 140  
 Lys Arg Phe Phe Glu Thr Gly Gly Lys Ser Leu Leu Asp Gly Leu Ser  
 145 150 155 160  
 His Leu Ala Lys Asp Leu Val His Asn Gly Gly Met Pro Ser Gln Val

165										170					175				
Asn	Met	Gly	Ala	Phe	Glu	Val	Gly	Lys	Ser	Leu	Gly	Val	Thr	Glu	Gly				
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Ala	Val	Val	Phe	Arg	Asn	Asp	Val	Leu	Glu	Leu	Ile	Gln	Tyr	Lys	Pro				
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Thr	Thr	Glu	Gln	Val	Tyr	Glu	Arg	Pro	Leu	Leu	Val	Val	Pro	Pro	Gln				
		210				215					220								
Ile	Asn	Lys	Phe	Tyr	Val	Phe	Asp	Leu	Ser	Pro	Asp	Lys	Ser	Leu	Ala				
225					230					235					240				
Arg	Phe	Cys	Leu	Arg	Asn	Asn	Val	Gln	Thr	Phe	Ile	Val	Ser	Trp	Arg				
			245						250					255					
Asn	Pro	Thr	Lys	Glu	Gln	Arg	Glu	Trp	Gly	Leu	Ser	Thr	Tyr	Ile	Glu				
			260					265					270						
Ala	Leu	Lys	Glu	Ala	Val	Asp	Val	Val	Thr	Ala	Ile	Thr	Gly	Ser	Lys				
		275					280					285							
Asp	Val	Asn	Met	Leu	Gly	Ala	Cys	Ser	Gly	Gly	Ile	Thr	Cys	Thr	Ala				
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Leu	Leu	Gly	His	Tyr	Ala	Ala	Ile	Gly	Glu	Asn	Lys	Val	Asn	Ala	Leu				
305					310					315					320				
Thr	Leu	Leu	Val	Ser	Val	Leu	Asp	Thr	Thr	Leu	Asp	Ser	Asp	Val	Ala				
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Leu	Phe	Val	Asn	Glu	Gln	Thr	Leu	Glu	Ala	Ala	Lys	Arg	His	Ser	Tyr				
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Gln	Ala	Gly	Val	Leu	Glu	Gly	Arg	Asp	Met	Ala	Lys	Val	Phe	Ala	Trp				
		355					360					365							
Met	Arg	Pro	Asn	Asp	Leu	Ile	Trp	Asn	Tyr	Trp	Val	Asn	Asn	Tyr	Leu				
	370					375					380								
Leu	Gly	Asn	Glu	Pro	Pro	Val	Phe	Asp	Ile	Leu	Phe	Trp	Asn	Asn	Asp				
385					390					395					400				
Thr	Thr	Arg	Leu	Pro	Ala	Ala	Phe	His	Gly	Asp	Leu	Ile	Glu	Leu	Phe				
				405					410					415					
Lys	Asn	Asn	Pro	Leu	Ile	Arg	Pro	Asn	Ala	Leu	Glu	Val	Cys	Gly	Thr				
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Pro	Ile	Asp	Leu	Lys	Gln	Val	Thr	Ala	Asp	Ile	Phe	Ser	Leu	Ala	Gly				
		435					440					445							
Thr	Asn	Asp	His	Ile	Thr	Pro	Trp	Lys	Ser	Cys	Tyr	Lys	Ser	Ala	Gln				
	450					455					460								
Leu	Phe	Gly	Gly	Asn	Val	Glu	Phe	Val	Leu	Ser	Ser	Ser	Gly	His	Ile				
465					470					475					480				
Gln	Ser	Ile	Leu	Asn	Pro	Pro	Gly	Asn	Pro	Lys	Ser	Arg	Tyr	Met	Thr				
			485					490					495						
Ser	Thr	Glu	Val	Ala	Glu	Asn	Ala	Asp	Glu	Trp	Gln	Ala	Asn	Ala	Thr				

500	505	510
Lys His Thr Asp Ser Trp Trp	Leu His Trp Gln Ala	Trp Gln Ala Gln
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Arg Ser Gly Glu Leu Lys Lys	Ser Pro Thr Lys Leu Gly	Ser Lys Ala
530	535	540
Tyr Pro Ala Gly Glu Ala Ala	Pro Gly Thr Tyr Val His	Glu Arg
545	550	555
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<212> PRT		
<213> Pseudomonas cichorii YN2 ; FERM BP-7375		
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Ser Thr Leu Arg Ser Val Ala Ala His	Gly Leu Arg His Pro Val His	
35	40	45
Thr Ala Arg His Ala Leu Lys Leu Gly	Gly Gln Leu Gly Arg Val Leu	
50	55	60
Leu Gly Asp Thr Leu His Pro Thr Asn	Pro Gln Asp Arg Arg Phe Asp	
65	70	75
Asp Pro Ala Trp Ser Leu Asn Pro Phe	Tyr Arg Arg Ser Leu Gln Ala	
85	90	95
Tyr Leu Ser Trp Gln Lys Gln Val Lys	Ser Trp Ile Asp Glu Ser Asn	
100	105	110
Met Ser Pro Asp Asp Arg Ala Arg Ala	His Phe Ala Phe Ala Leu Leu	
115	120	125
Asn Asp Ala Val Ser Pro Ser Asn Ser	Leu Leu Asn Pro Leu Ala Ile	
130	135	140
Lys Glu Ile Phe Asn Ser Gly Gly Asn	Ser Leu Val Arg Gly Ile Gly	
145	150	155
His Leu Val Asp Asp Leu Leu His Asn	Asp Gly Leu Pro Arg Gln Val	
165	170	175
Thr Arg His Ala Phe Glu Val Gly Lys	Thr Val Ala Thr Thr Thr Gly	
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Ala Val Val Phe Arg Asn Glu Leu Leu	Glu Leu Ile Gln Tyr Lys Pro	
195	200	205
Met Ser Glu Lys Gln Tyr Ser Lys Pro	Leu Leu Val Val Pro Pro Gln	
210	215	220
Ile Asn Lys Tyr Tyr Ile Phe Asp Leu	Ser Pro His Asn Ser Phe Val	
225	230	235
Gln Phe Ala Leu Lys Asn Gly Leu Gln	Thr Phe Val Ile Ser Trp Arg	

245										250					255				
Asn	Pro	Asp	Val	Arg	His	Arg	Glu	Trp	Gly	Leu	Ser	Thr	Tyr	Val	Glu				
			260					265					270						
Ala	Val	Glu	Glu	Ala	Met	Asn	Val	Cys	Arg	Ala	Ile	Thr	Gly	Ala	Arg				
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	290					295					300								
Leu	Gln	Gly	His	Leu	Gln	Ala	Lys	Arg	Gln	Leu	Arg	Arg	Val	Ser	Ser				
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Thr	Leu	Phe	Ala	Asp	Glu	Gln	Thr	Leu	Glu	Ala	Ala	Lys	Arg	Arg	Ser				
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Tyr	Gln	Lys	Gly	Val	Leu	Glu	Gly	Arg	Asp	Met	Ala	Lys	Val	Phe	Ala				
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Trp	Met	Arg	Pro	Asn	Asp	Leu	Ile	Trp	Ser	Tyr	Phe	Val	Asn	Asn	Tyr				
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385					390					395					400				
Asp	Asn	Thr	Arg	Leu	Pro	Ala	Ala	Leu	His	Gly	Asp	Leu	Leu	Asp	Phe				
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Phe	Lys	His	Asn	Pro	Leu	Ser	His	Pro	Gly	Gly	Leu	Glu	Val	Cys	Gly				
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Thr	Pro	Ile	Asp	Leu	Gln	Lys	Val	Thr	Val	Asp	Ser	Phe	Ser	Val	Ala				
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Gly	Ile	Asn	Asp	His	Ile	Thr	Pro	Trp	Asp	Ala	Val	Tyr	Arg	Ser	Thr				
	450					455					460								
Leu	Leu	Leu	Gly	Gly	Glu	Arg	Arg	Phe	Val	Leu	Ala	Asn	Ser	Gly	His				
465					470					475					480				
Val	Gln	Ser	Ile	Leu	Asn	Pro	Pro	Asn	Asn	Pro	Lys	Ala	Asn	Tyr	Leu				
			485					490						495					
Glu	Gly	Ala	Lys	Leu	Ser	Ser	Asp	Pro	Arg	Ala	Trp	Tyr	Tyr	Asp	Ala				
		500						505					510						
Lys	Pro	Val	Asp	Gly	Ser	Trp	Trp	Thr	Gln	Trp	Leu	Gly	Trp	Ile	Gln				
		515					520					525							
Glu	Arg	Ser	Gly	Ala	Gln	Lys	Glu	Thr	His	Met	Ala	Leu	Gly	Asn	Gln				
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<210> 37  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication  
  
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<210> 53  
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<210> 54  
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&lt;210&gt; 55

&lt;211&gt; 58

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Coding chain for peptide of SEQ ID:5

&lt;400&gt; 55

gatccagcc gcatatgcat cggagtcttc atcaggatgg gggtaggaggt tcggagct 58

&lt;210&gt; 56

&lt;211&gt; 50

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Complimentary chain for ssDNA of SEQ ID:5

&lt;400&gt; 56

ccgaacctcc acccccatcc tgatgagaac tccgatgcat atgcggctgg 50

&lt;210&gt; 57

&lt;211&gt; 58

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Coding chain for peptide of SEQ ID:6

&lt;400&gt; 57

gatccaatac tactatgggg ccgatgagtc ctcatagtca gggtaggaggt tcggagct 58

&lt;210&gt; 58

&lt;211&gt; 50

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Complimentary chain for ssDNA of SEQ ID:6

&lt;400&gt; 58

ccgaacctcc accctgacta tgaggactca tcggcccat agtagtattg 50

&lt;210&gt; 59

&lt;211&gt; 58

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Coding chain for peptide of SEQ ID:7

&lt;400&gt; 59

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&lt;210&gt; 60



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<210> 62  
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<210> 64  
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<210> 65  
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<210> 66  
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<210> 67  
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<400> 67  
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<210> 68  
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<400> 68  
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<210> 69  
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<400> 69  
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<210> 70  
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<400> 70  
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<210> 71  
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<223> Coding chain for peptide of SEQ ID:13

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<210> 72

<211> 50

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<210> 73

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<223> Coding chain for peptide of SEQ ID:14

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<210> 74

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<212> DNA

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<223> Complimentary chain for ssDNA of SEQ ID:14

<400> 74  
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<210> 75

<211> 58

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<220>

<223> Coding chain for peptide of SEQ ID:15

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<210> 76

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<212> DNA

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<223> Complimentary chain for ssDNA of SEQ ID:15

<400> 76  
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<210> 77

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<223> Coding chain for peptide of SEQ ID:16

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<212> DNA

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<223> Coding chain for peptide of SEQ ID:17

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<223> Complimentary chain for ssDNA of SEQ ID:17

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<223> Coding chain for peptide of SEQ ID:18

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<212> DNA

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<220>

<223> Complimentary chain for ssDNA of SEQ ID:18

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<210> 88  
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&lt;223&gt; Complimentary chain for ssDNA of SEQ ID:24

&lt;400&gt; 94

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&lt;210&gt; 95

&lt;211&gt; 58

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&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Coding chain for peptide of SEQ ID:25

&lt;400&gt; 95

gatcctggat gactaagatg cctactacgc atactaggta tggtaggagt tcggagct 58

&lt;210&gt; 96

&lt;211&gt; 50

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Complimentary chain for ssDNA of SEQ ID:25

&lt;400&gt; 96

ccgaacctcc accataccta gtatgcgtag taggcatctt agtcatccag 50

&lt;210&gt; 97

&lt;211&gt; 58

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Coding chain for peptide of SEQ ID:26

&lt;400&gt; 97

gatcccatca tcctatgtat tctatgacta gggcgttgcc tggtaggagt tcggagct 58

&lt;210&gt; 98

&lt;211&gt; 50

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Complimentary chain for ssDNA of SEQ ID:26

&lt;400&gt; 98

ccgaacctcc accaggcaac gccctagtca tagaatacat aggatgatgg 50

&lt;210&gt; 99

&lt;211&gt; 58

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Coding chain for peptide of SEQ ID:27

&lt;400&gt; 99

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<210> 102  
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<210> 103  
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<210> 104  
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<220>  
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<210> 106  
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<210> 107  
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 <223> Coding chain for peptide of SEQ ID:31

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<210> 108  
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 <223> Complimentary chain for ssDNA of SEQ ID:31

<400> 108  
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<220>  
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<210> 110  
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<220>  
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<210> 111  
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 caaagcgacc aagagttgtt ctctagcccc aatgccactg acacaatccc ttgtgtgaga 840  
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<210> 114  
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<223> Primer for PCR multiplication

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<211> 120

<212> DNA

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<223> Primer for PCR multiplication

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 ttccagctcc attcttcaca cttccacaac ttaaagacag ctttagaaat gtggccctca 120

<210> 121  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 121  
 gatttccttt gggcagaaga gatagcttac 30

<210> 122  
 <211> 120  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 122  
 ccggtgttgc tgaagttgta taatctgtcc ataataaacc gacactgatt ttaccaaatt 60  
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<210> 123  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 123  
 ccggtgttgc tgaagttgta taatctgtcc 30

<210> 124  
 <211> 120  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 124

tacaacttca gcaacaccgg ttaccgat cctacttca acactactta tctccaaact 60  
 cttcgtggac tatgtccct caatggtaat ctaagcgctt tggaggattt tgatctacgt 120

<210> 125  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 125  
 tacaacttca gcaacaccgg ttaccgat 30

<210> 126  
 <211> 120  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 126  
 cagtggcatt ggggctagag acaactctt ggtcgcttgg gataagtcct tttcctctt 60  
 cgagattcac atagtatttg ttgtcaaaaa tcgttggcgt acgtagatca aaatccacca 120

<210> 127  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 127  
 cagtggcatt ggggctagag acaactctt 30

<210> 128  
 <211> 120  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 128  
 ctctagcccc aatgccactg acacaatccc ttgggtgaga tcatttgcta atagcacaca 60  
 aacattcttc aatgcatttg tggaggcgat ggataggatg ggaacatta cacctcttac 120

<210> 129  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 129  
 ctctagcccc aatgccactg acacaatccc 30

<210> 130  
 <211> 72  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 130  
 agagtggag ttcaccaccc tacaattcaa cctgatctgt ccttgagttc ctgtaagagg 60  
 tgtaatgttt cc 72

<210> 131  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 131  
 agagtggag ttcaccaccc tacaattcaa 30

<210> 132  
 <211> 58  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 132  
 agtcggatcc gtttatgcga atcagactcc gccttctaag gcgcggggtg gaggttcg 58

<210> 133  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 133  
 aggcctcgag agagtggag ttcaccaccc taca 34

<210> 134  
 <211> 1695  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> GroEL coding artificial sense-sequence

<400> 134  
 gtttatgcga atcagactcc gccttctaag gcgcggggtg gaggttcgat ggcagctaaa 60  
 gacgtaaaat tcggtaacga cgctcgtgtg aaaatgctgc gcggcgtaaa cgtactggca 120  
 gatgcagtga aagttaccct cggtcacaaa ggccgtaacg tagttctgga taaatctttc 180  
 ggtgcaccga ccatcaccaa agatgggtgtt tccgttgctc gtgaaatcga actggaagac 240

aagttcga aa atattgggtgc gcagatgggtg aaagaagttg cctctaaagc aaacgacgct 300  
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aaagctgttg ctgcgggcat gaaccgcatg gacctgaaac gtggatcga caaagcggtt 420  
accgtcgcag ttgaagaact gaaagcgctg tccgtaccat gctctgactc taaagcgatt 480  
gctcagggtg gtaccatctc cgctaactcc gacgaaaccg taggtaaact gatcgctgaa 540  
gcgatggaca aagtcggtaa agaaggcggtt atcaccgttg aagacggtag cggctcgcag 600  
gacgaactgg acgtgggtga aggtatgcag ttcgaccgtg gctacctgct tccttacctc 660  
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tacggcaaca tgatcgacat gggatatctg gaccaacca aagtaactcg ttctgctctg 1560  
cagtacgcag ctctgtgtgc tggcctgatg atcaccaccg aatgcatggt taccgacctg 1620  
ccgaaaaacg atgcagctga cttaggcgct gctggcggtg tggcgggcat ggggtggcat 1680  
ggcggcatga tgtaa 1695

<210> 135

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 135

gtttatgcga atcagactcc gccttctaag gcgcggggtg gaggttcgat ggcagctaaa 60

gacgtaaaat tcggtaacga cgctcgtgtg aaaatgctgc gcggcgtaaa cgtactggca 120

<210> 136  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 136  
 gtttatgcga atcagactcc gccttctaag 30

<210> 137  
 <211> 120  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 137  
 gagcaacgga aacaccatct ttggtgatgg tcggtgcacc gaaagattta tccagaacta 60  
 cgttacggcc ttttgaccg agggtaactt tcactgcac tcgcagtacg tttacgccgc 120

<210> 138  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 138  
 gagcaacgga aacaccatct ttggtgatgg 30

<210> 139  
 <211> 120  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 139  
 agatggtgtt tccgttgctc gtgaaatcga actggaagac aagttcgaaa atatgggtgc 60  
 gcagatgggtg aaagaagttg cctctaaagc aaacgacgct gcaggcgacg gtaccaccac 120

<210> 140  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 140  
 agatggtgtt tccgttgctc gtgaaatcga 30

<210> 141  
 <211> 120  
 <212> DNA  
 <213> Artificial Sequence



<220>

<223> Primer for PCR multiplication

<400> 141

aaccgctttg tcgataccac gtttcagggtc catcgggttc atgcccgcag caacagcttt 60

cagaccttca gtgatgatag cctgagccag tacggttgca gtggtggtac cgtcgccctgc 120

<210> 142

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 142

aaccgctttg tcgataccac gtttcagggtc 30

<210> 143

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 143

gtggtatcga caaagcggtt accgctgcag ttgaagaact gaaagcgctg tccgtaccat 60

gctctgactc taaagcgatt gctcagggtg gtaccatctc cgctaactcc gacgaaaccg 120

<210> 144

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 144

gtggtatcga caaagcggtt accgctgcag 30

<210> 145

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 145

tcaaccacgt ccagttcgtc ctgcagaccg gtaccgtctt caacggtgat aacgccttct 60

ttaccgactt tgtccatcgc ttacgcgata agtttaccta cggtttcgtc ggagtttagcg 120

<210> 146

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 146  
tcaaccacgt ccagttcgtc ctgcagaccg 30

<210> 147  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 147  
gacgaactgg acgtggttga aggtatgcag ttcgaccgtg gctacctgtc tccttacttc 60  
atcaacaagc cggaaactgg cgcagtagaa ctggaaagcc cgttcacctt gctggctgac 120

<210> 148  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 148  
gacgaactgg acgtggttga aggtatgcag 30

<210> 149  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 149  
cttcgccttc tacatcttca gcgatgataa gcagcggttt gcctgctttg gcaacagctt 60  
ccagaaccgg cagcatttcg cggatgttgg agattttcct gtcagccagc aggatgaacg 120

<210> 150  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 150  
cttcgccttc tacatcttca gcgatgataa 30

<210> 151  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 151  
tgaagatgta gaaggcgaag cgctggcaac tgctgttgtt aacaccattc gtggcatcgt 60

gaaagtcgct gcggttaaag caccgggcctt cggcgatcgt cgtaaagcta tgctgcagga 120

<210> 152

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 152

tgaagatgta gaaggcgaag cgctggcaac 30

<210> 153

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 153

cacaacacgt ttagcctgac ccaggtcttc cagggttgct tttccagct ccataccgat 60

ctcttcagag atcacggtac cgccagtcag ggttgcgata tcctgcagca tagctttacg 120

<210> 154

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 154

cacaacacgt ttagcctgac ccaggtcttc 30

<210> 155

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 155

gtcaggctaa acgtgtttgt atcaacaaag acaccaccac tatcatcgat ggcgtgggtg 60

aagaagctgc aatccagggc cgtgttgctc agatccgtca gcagattgaa gaagcaactt 120

<210> 156

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 156

gtcaggctaa acgtgtttgt atcaacaaag 30

<210> 157

<211> 120  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 157

tctttcattt caacttcggt agcagcaccc actttgataa ctgcaacgcc gcctgccagt 60

ttcgctacgc gttcctgcag tttttcacgg tcgtagtcag aagttgcttc ttcaatctgc 120

<210> 158

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 158

tctttcattt caacttcggt agcagcaccc 30

<210> 159

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 159

accgaagtig aaatgaaaga gaaaaaagca cgcgttgaag atgccctgca cgcgaccgt 60

gctgcggtag aagaaggcgt ggttgctggt ggtgggttg cgtgatccg cgtagcgtct 120

<210> 160

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 160

accgaagtig aaatgaaaga gaaaaaagca 30

<210> 161

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 161

agttcaatac gatctgacgc agcggagctt ccattgcacg cagtgcact ttgataccca 60

cgttctggtc ttggttctga ccacgcaggt cagccagttt agacgctacg cggatcagcg 120

<210> 162

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 162

agttcaatac gatctgacgc agcggagctt 30

<210> 163

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 163

gcgtcagatc gtattgaact gcggcgaaga accgtctgtt gttgctaaca ccgttaaagg 60

cggcgacggc aactacgggtt acaacgcagc aaccgaagaa tacggcaaca tgatcgacat 120

<210> 164

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 164

gcgtcagatc gtattgaact gcggcgaaga 30

<210> 165

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 165

caggtcggta accatgcatt cggtggtgat catcaggcca gccacagaag ctgcgtactg 60

cagagcagaa cgagttactt tggttgggtc caggataccc atgtcgatca tgttgccgta 120

<210> 166

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 166

caggtcggta accatgcatt cggtggtgat 30

<210> 167

<211> 95

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 167  
 ttacatcatg ccgcccatgc cacccatgcc gccataccg ccagcagcgc ctaagtcagc 60  
 tgcatacgitt ttgggcaggt cggtaaccat gcatt 95

<210> 168  
 <211> 30  
 <212> DNA  
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<220>  
 <223> Primer for PCR multiplication

<400> 168  
 aggcctcgag ttacatcatg ccgcccatgc 30

<210> 169  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer for PCR multiplication

<400> 169  
 ttacatcatg ccgcccatgc cacccatgcc gcc 33

<210> 170  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anodisk membrane-binding peptide

<400> 170  
 Tyr Ala Gln Thr Pro Pro Ser Arg  
 1 5

<210> 171  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anodisk membrane-binding peptide

<400> 171  
 Leu Tyr Ala Gln Gln Thr Pro Pro Ser Arg Ser Arg  
 1 5 10

<210> 172  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anodisk membrane-binding peptide

<400> 172  
 Val Tyr Ala Asn Gln Thr Pro Pro Ser Arg Ala Arg Ala Lys Ala Arg  
 1 5 10 15

<210> 173  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anodisk membrane-binding peptide

<400> 173  
 Val Tyr Ala Asn Gln Thr Pro Pro Ser Lys Ala Arg Tyr Ala Gln  
 1 5 10 15  
 Thr Pro Pro Ser Arg  
 20

<210> 174  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Coding chain for peptide of SEQ ID:170

<400> 174  
 gatcctaagc gcagactccg ccttctcggg gtggagggtc ggagct 46

<210> 175  
 <211> 38  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Complimentary chain for ssDNA of SEQ ID:170

<400> 175  
 ccgaacctcc accccgagaa ggccgaggtct gcgcatag 38

<210> 176  
 <211> 58  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Coding chain for peptide of SEQ ID:171

<400> 176  
 gatccctcta tgcgaacag actccgcctt ctcggtctcg gggtaggagt tcggagct 58

<210> 177  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Complimentary chain for ssDNA of SEQ ID:171

<400> 177  
 ccgaacctcc accccgagac cgagaaggcg gagtctgttg cgcataagag 50

<210> 178  
 <211> 70  
 <212> DNA  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Coding chain for peptide of SEQ ID:1

&lt;400&gt; 178

gatccgttta tgcgaatcag actccgcctt ctgcgcacg cgcaaaggcg cggggtggag 60  
gttcggagct 70

&lt;210&gt; 179

&lt;211&gt; 62

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Complimentary chain for ssDNA of SEQ ID:1

&lt;400&gt; 179

ccgaacctcc accccgcgcc ttgcgcgtg cgcgagaagg cggagtctga ttgcataaa 60  
cg 62

&lt;210&gt; 180

&lt;211&gt; 82

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Coding chain for peptide of SEQ ID:1

&lt;400&gt; 180

gatccgttta tgcgaatcag actccgcctt ctaaggcgcg gtatgcgcag actccgcctt 60  
ctcggggtgg aggttcggag ct 82

&lt;210&gt; 181

&lt;211&gt; 74

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Complimentary chain for ssDNA of SEQ ID:1

&lt;400&gt; 181

ccgaacctcc accccgagaa ggcggagtct gcgcataccg cgccttagaa ggcggagtct 60  
gattcgata aacg 74